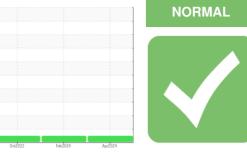


OIL ANALYSIS REPORT

Sample Rating Trend



Diesel Engine PETRO CANADA DURON SHP 15W40 (--- GAL)

SAMPLE INFORMATION metho

DIAGNOSIS Recommendation

Resample at the next service interval to monitor.

Machine Id 4608M

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

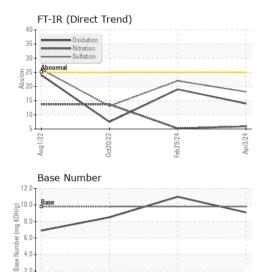
Fluid Condition

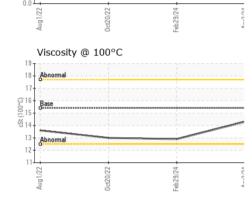
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM		methoa	limit/base	current	nistory i	nistory2
Sample Number		Client Info		GFL0104406	GFL0104339	GFL0059204
Sample Date		Client Info		03 Apr 2024	29 Feb 2024	20 Oct 2022
Machine Age	hrs	Client Info		21331	21185	18477
Oil Age	hrs	Client Info		300	600	18477
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
-				-		
CONTAMINAT	ON	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	\$	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>90	11	6	16
Chromium	ppm	ASTM D5185m	>20	1	0	<1
Nickel	ppm	ASTM D5185m	>2	<1	0	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m		3	1	1
Lead	ppm	ASTM D5185m	>40	<1	0	1
Copper	ppm	ASTM D5185m	>330	1	0	<1
Tin	ppm	ASTM D5185m	>15	<1	0	0
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		<1	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 0	current	history1 67	history2 3
	ppm ppm		0			
Boron Barium		ASTM D5185m	0	<1	67	3
Boron	ppm	ASTM D5185m ASTM D5185m	0 0 60	<1 0	67 5	3 0
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	<1 0 62	67 5 39	3 0 53
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	<1 0 62 <1	67 5 39 0	3 0 53 1
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	<1 0 62 <1 952	67 5 39 0 528	3 0 53 1 904
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150	<1 0 62 <1 952 1048	67 5 39 0 528 1568	3 0 53 1 904 1036
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	<1 0 62 <1 952 1048 950	67 5 39 0 528 1568 931	3 0 53 1 904 1036 942
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	<1 0 62 <1 952 1048 950 1216 3008	67 5 39 0 528 1568 931 1082 2572	3 0 53 1 904 1036 942 1213 3081
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	<1 0 62 <1 952 1048 950 1216 3008 current	67 5 39 0 528 1568 931 1082 2572 history1	3 0 53 1 904 1036 942 1213 3081 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	<1 0 62 <1 952 1048 950 1216 3008 current 5	67 5 39 0 528 1568 931 1082 2572 history1 11	3 0 53 1 904 1036 942 1213 3081 history2 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 limit/base	<1 0 62 <1 952 1048 950 1216 3008 <u>current</u> 5 3	67 5 39 0 528 1568 931 1082 2572 history1 11 86	3 0 53 1 904 1036 942 1213 3081 history2 4 8
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20	<1 0 62 <1 952 1048 950 1216 3008 current 5	67 5 39 0 528 1568 931 1082 2572 history1 11	3 0 53 1 904 1036 942 1213 3081 history2 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 limit/base	<1 0 62 <1 952 1048 950 1216 3008 <u>current</u> 5 3	67 5 39 0 528 1568 931 1082 2572 history1 11 86	3 0 53 1 904 1036 942 1213 3081 history2 4 8
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20	<1 0 62 <1 952 1048 950 1216 3008 current 5 3 2	67 5 39 0 528 1568 931 1082 2572 history1 11 86 10	3 0 53 1 904 1036 942 1213 3081 history2 4 8 3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 Imit/base >25 >20	<1 0 62 <1 952 1048 950 1216 3008 current 5 3 2 2 current	67 5 39 0 528 1568 931 1082 2572 history1 11 86 10 10 history1	3 0 53 1 904 1036 942 1213 3081 history2 4 8 3 3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25 >20 1imit/base >20	<1 0 62 <1 952 1048 950 1216 3008 <i>current</i> 5 3 2 2 <i>current</i> 0.3	67 5 39 0 528 1568 931 1082 2572 history1 11 86 10 10 history1 0.1	3 0 53 1 904 1036 942 1213 3081 history2 4 8 3 3 history2 0.1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm t ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 imit/base >25 >20 imit/base >6 >20	<1 0 62 <1 952 1048 950 1216 3008 <i>current</i> 5 3 2 2 <i>current</i> 0.3 5.9	67 5 39 0 528 1568 931 1082 2572 history1 11 86 10 history1 0.1 5.2	3 0 53 1 904 1036 942 1213 3081 history2 4 8 3 3 history2 0.1 13.7
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844	0 0 0 1010 1070 1150 2260 225 220 220 imit/base >20 20 30 20 30 20 30	<1 0 62 <1 952 1048 950 1216 3008 Current 5 3 2 Current 0.3 5.9 18.1 Current	67 5 39 0 528 1568 931 1082 2572 history1 11 86 10 history1 0.1 5.2 22.0 history1	3 0 53 1 904 1036 942 1213 3081 history2 4 8 3 3 history2 0.1 13.7 13.1 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm t ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 imit/base >25 imit/base >6 >20 >20	<1 0 62 <1 952 1048 950 1216 3008 <u>current</u> 5 3 2 2 <u>current</u> 0.3 5.9 18.1	67 5 39 0 528 1568 931 1082 2572 history1 11 86 10 history1 0.1 5.2 22.0	3 0 53 1 904 1036 942 1213 3081 history2 4 8 3 history2 0.1 13.7 13.1



OIL ANALYSIS REPORT

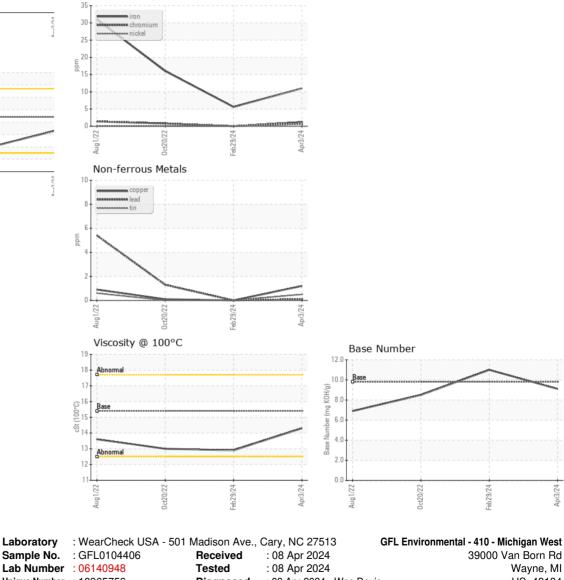




VISUAL		methou	11111/0430	ourient	matory	matoryz
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPE	RTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	14.3	12.9	13.0
GRAPHS						

VISUAI method limit/base current history1 history2

Ferrous Alloys





Unique Number : 10965756 Diagnosed : 08 Apr 2024 - Wes Davis Test Package : FLEET Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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Laboratory

Submitted By: seel also GFL468 - Laura Wilson